

CLAIMS

1. A kit used to form a customized dental tray from a heat-softenable polymeric material using a person's teeth as a template, the kit comprising:

a preformed dental tray sized and configured so that it can be placed over at least a portion of a person's upper or lower teeth during a tray customization procedure, the dental tray comprising a heat-softenable polymeric material having a customization temperature range within which the polymeric material is plastically deformable so that the dental tray can be customized when placed in contact with a person's teeth but not so soft or flowable that the dental tray shrivels, melts or is otherwise deformed to the point of preventing formation of a customized dental tray; and

a color-changing temperature indicator that, when heated together with the preformed dental tray, changes colors so as to provide a visual indication that the dental tray is within the customization temperature range.

2. A kit as defined in claim 1, wherein the heat-softenable polymeric material comprises at least one member selected from the group consisting of low density polyethylene, ultra low density polyethylene, other polyethylenes, ethylene vinyl acetate, polycaprolactone, and polypropylene.

3. A kit as defined in claim 1, wherein the preformed dental tray does not itself change color when heated to within the customization temperature range.

4. A kit as defined in claim 1, wherein the customization temperature range is from about 110° to about 180° F.

5. A kit as defined in claim 1, wherein the customization temperature range is from about 120° to about 170° F.

6. A kit as defined in claim 1, wherein the customization temperature range is from about 130° to about 160° F.

7. A kit as defined in claim 1, wherein the color-changing temperature indicator is removably attached to the preformed dental tray.

8. A kit as defined in claim 1, wherein the color-changing temperature indicator is non-removably attached to the preformed dental tray.

9. A kit as defined in claim 1, wherein the color-changing temperature indicator is separate from the preformed dental tray

10. A kit as defined in claim 1, wherein the color-changing temperature indicator reversibly changes color when heated to within the customization temperature range.

11. A kit as defined in claim 1, wherein the color-changing temperature indicator irreversibly changes color when heated to within the customization temperature range.

12. A kit as defined in claim 1, wherein the color-changing temperature indicator comprises at least one liquid crystal that changes color when heated to within the customization temperature range.

13. A kit as defined in claim 1, wherein the color-changing temperature indicator changes from a first color to a second color when heated to within the customization temperature range.

14. A kit as defined in claim 13, wherein the color-changing temperature indicator changes to a third color when heated to a temperature above which the preformed dental tray may become damaged or cannot be comfortably placed within a person's mouth.

15. A kit as defined in claim 1, wherein the color-changing temperature indicator changes from white to at least one of black or gray when heated to within the customization temperature range.

16. A kit as defined in claim 1, further comprising at least one dental treatment composition preloaded within a syringe.

17. A kit as defined in claim 16, wherein the dental treatment composition comprises at least one of a dental bleaching agent or a desensitizing agent.

18. A kit as defined in claim 1, further comprising an outer support tray into which the preformed dental tray is placed when the dental tray is heated and customized.

19. A kit used to form a customized dental tray from a heat-softenable polymeric material using a person's teeth as a template, the kit comprising:

a preformed dental tray sized and configured so that it can be placed over at least a portion of a person's upper or lower teeth during a tray customization procedure, the dental tray comprising a heat-softenable polymeric material having a customization temperature range within which the polymeric material is plastically deformable so that the dental tray can be customized when placed in contact with a person's teeth but not so soft and flowable that the dental tray shrivels, melts or is otherwise deformed to the point of preventing formation of a customized dental tray, wherein the preformed dental tray does not change color when heated to within the customization temperature range;

a color-changing temperature indicator comprising at least one liquid crystal that, when heated together with the preformed dental tray, changes colors so as to provide a visual indication that the dental tray is within the customization temperature; and

at least one dental treatment composition preloaded within a syringe.

20. A kit as defined in claim 19, wherein the dental treatment composition comprises at least one of a dental bleaching agent or a desensitizing agent.

21. A method of forming a customized dental tray, comprising:

(a) heating together

(i) a preformed dental tray comprising a heat-softenable polymeric material to within a customization temperature range in which the polymeric material is plastically deformable so that the dental tray can be customized when placed in contact with a person's teeth but not so soft and flowable that the dental tray shrivels, melts or is otherwise deformed to the point of preventing formation of a customized dental tray; and

(ii) a color-changing temperature indicator that, when heated together with the preformed dental tray, changes colors so as to provide a visual indication that the dental tray is within the customization temperature;

(b) monitoring the color-changing temperature indicator to determine when the preformed dental tray has been heated to within the customization temperature range;

(c) placing the dental tray over the person's teeth when heated to within the customization temperature range; and

(d) forming an impression of the person's teeth within the dental tray that substantially corresponds to at least a portion of the person's teeth in order to yield a customized dental tray.

22. A method as defined in claim 21, wherein the preformed dental tray is heated using hot water.

23. A method as defined in claim 21, wherein the preformed dental tray is heated using a heat gun.

24. A method as defined in claim 21, wherein the preformed dental tray is heated using a torch.

25. A method as defined in claim 21, further comprising removing the customized dental tray from the person's teeth after the impression has been formed and the dental tray has cooled sufficiently so as to retain the impression.

26. A method as defined in claim 25, further comprising trimming and scalloping the customized dental tray so that it does not significantly overlap the person's gingival margin when placed over the person's teeth.